By William Weinfeld ☆

Income of Dentists, 1929-48

This is the second postwar article on professional incomes published by the Office of Business Economics. It brings up to date the information on dentists' incomes published in the April 1944 *Survey of Current Business*, which provided data through 1941. A recent article (in the August 1949 issue of the *Survey*) discussed lawyers' incomes from 1929-48. New information on the incomes of other independent professional groups will be published as additional studies are completed.

IN 1948 the average net income of all civilian dentists in the United States was 60 percent higher than in 1929, and 80 percent above 1941. The 1948 mean net income was $6,912, the median net income $5,888; in 1929, almost two decades earlier, the mean net income was $4,275, the median $3,676. The mean income is equal to the sum of all the incomes divided by the number of income recipients. The median income is that income below which, and above which, half of all the income recipients fall.

The inquiry which furnished these data was launched in the spring of 1949 in cooperation with the American Dental Association. It was the fifth large-scale, sample survey of economic conditions in the dental profession conducted by the National Income Division of the Office of Business Economics. As the first Nation-wide dental survey since 1942, it provides hitherto unavailable information covering the recent period from 1944-48. The study was made possible by the generous cooperation of the many dentists from all parts of the country who voluntarily filled in and returned the questionnaires which were sent to them.

Forms of Practice

Dentists are now the third largest independent professional group in the country, being outnumbered only by lawyers and physicians. In 1948 there were approximately 78,000 dentists in active civilian practice in the United States, of whom 92 percent were primarily independent and 8 percent were salaried. Independent dentists had a mean net income of $7,047 as compared with $5,358 for salaried dentists, but showed a much less striking advantage in terms of the median ($5,944 and $5,295, respectively). (See table 1.) The difference in average net income between these two types of dentists persists even when the comparison is made for dentists in the same age groups or in communities of comparable size.

Almost two-thirds (62.6 percent) of the salaried dentists in 1948 were employed by industry or by Federal, State, or local government; only a third (37.4 percent) were employed by other dentists. The latter group reported somewhat

higher incomes (mean, $5,968; median, $5,432) than the former (mean, $4,993; median, $5,241).

Only 3 percent of the independent dentists practiced in partnerships in 1948. Another 10.6 percent shared office space or employees, but were not members of partnerships. The overwhelming proportion (86.4 percent), however, practiced alone—with or without employees, but neither in partnerships nor sharing expenses. Of these three groups, dentists in partnerships reported the highest average net incomes (mean, $8,614; median, $6,909), followed by dentists who shared costs (mean, $7,797; median, $6,796), with dentists who practiced alone having the lowest incomes (mean, $6,901; median, $5,802).

Trends in Income

Data covering all dentists are not available for much of the period since 1929, but are available in some detail for nonsalaried dentists. However, since nonsalaried dentists (i. e., those practicing as entrepreneurs, with no additional income from salaried practice) have constituted between 89 and 94 percent of all dentists since 1929, the trend in their incomes should provide a highly satisfactory indication for all dentists as well.

Since 1929 the average net income of nonsalaried dentists, like that of other independent professional practitioners, has followed the trend in general economic conditions quite closely. (See table 2.) Thus, the predepression high point of prosperity in 1929 also marked the known predepression peak of dentists' average income, whereas 1933 marked the lowest point to which the average income of dentists declined (mean, $2,188; median, $1,880)—reduced by half from its 1929 level (mean, $4,267; median, $3,676). Perhaps because of the greater relative postponability of dental services in the mind of the public (or because of postponement in the payment for these services), dentists' incomes fell somewhat more than physicians', and considerably more than lawyers'.

Table 1.—Average Net Income of Dentists by Form of Practice, 1948

Form of practice	Percent of dentists in each detailed category	Percent of dentists within major categories	Mean net income	Median net income
Major independent:				
Without partners..........			$6,996	$5,903
Not sharing costs_____	78.5	86.4	6,901	5,802
Sharing costs_____	9.7	10.6	7,797	6,796
Partnership_____	2.8	3.0	8,614	6,909
Total_____	92.0	100.0	7,047	5,944
Major salaried:				
Employed by another dentist_____	3.0	37.4	5,968	5,432
Employed by industry, government, etc_____	5.0	62.6	4,993	5,241
Total_____	8.0	100.0	5,358	5,295
All dentists_____	100.0	....	6,912	5,888

Source: U. S. Department of Commerce, Office of Business Economics.

After 1933, dental incomes started a long up-hill climb—at first slowly until 1940 (interrupted only in 1938, by the recession), and then sharply during the war years as personal

income increased and the number of civilian dentists declined. By 1942 the previous 1929 peak had been exceeded. In 1945, although mean net income continued to rise (reaching $6,649), the rate of increase dropped markedly. In 1946, for the first time since 1938, a setback occurred, and dentists' mean net income slipped about 8 percent to $6,381. This drop was presumably due to the relatively low incomes earned by dentists entering or reentering civilian practice after release from the armed forces.[1] In 1947 and 1948, the upward trend was resumed, with the latter year recording the highest nonsalaried mean ($7,039) and median ($5,039) net incomes of the 1929–48 period.

Number of dentists and aggregate income

According to Census Bureau data, the total number of independent and salaried dentists in active practice in the United States remained practically unchanged from 1930 to 1940 (70,344 and 70,601, respectively),[2] the number of new graduates apparently just balancing the number who retired or died. The number in independent practice during the same period was virtually constant at approximately 68,000. (See table 2.)

With the onset of World War II, however, the number of dentists in civilian practice dropped sharply as some 22,000 dentists were eventually withdrawn from civilian life to serve with the armed forces, while only a few thousand older dentists could be called back from retirement to help bridge the gap thus formed. In addition, by dint of accelerated teaching programs the number of dental graduates was increased markedly between 1941 and 1945, but neither of these steps was sufficient to prevent a drastic decline in the number of civilian dentists which was not halted until the general release of men from the armed forces in 1946.

Tentative estimates indicate that the number of independent and civilian salaried dentists in active practice at the end of 1948 was approximately 78,000, of whom about 72,000 were in independent private practice and about 6,000 in salaried civilian practice. In addition, some 1,600 dentists were in active practice in the armed forces, thus making an estimated total of some 80,000 dentists engaged in active civilian or military practice at the end of 1948.[3]

This marked increase in the number of active dentists can be due only in part to the fact that the period since 1939 produced some 3,000 more dental graduates than the previous nine-year span. In addition, it appears that the number of retirements was much smaller than in the earlier period.

With the substantial increases recorded in both mean gross income and in the total number of dentists, the aggregate gross income of all dentists in independent practice reached

an estimated $945 million in 1948, or 101.9 percent above 1941 and 95.7 percent above 1929. Aggregate net income of all dentists in independent practice climbed to a new high of $523 million in 1948, or 107.5 percent above 1941 and 81.0 percent above 1929. (See table 2.)

Table 2.—Number of Dentists and Their Total and Average Gross and Net Incomes, 1929–48 [1]

Year	Mean income [2]		Ratio of net to gross income (percent)	Median net income [3]	Percent by which mean exceeds median [3]	Number in independent practice [4] (thousands)	Total income [5] (millions of dollars)	
	Gross [2]	Net					Gross [5]	Net
1929	$7,112	$4,247	60.0	$3,676	10.1	68	483	289
1930	6,314	4,020	59.0	(6)	(6)	68	463	272
1931	6,001	3,422	57.0	(6)	(6)	68	408	232
1932	4,501	2,479	54.0	(6)	(6)	68	312	168
1933	4,052	2,188	54.0	1,880	16.4	68	275	148
1934	4,347	2,301	55.0	(6)	(6)	68	295	162
1935	4,438	2,485	56.0	2,173	14.4	68	302	169
1936	4,868	2,726	56.0	2,371	15.0	68	331	185
1937	5,149	2,583	50.0	2,462	17.1	68	350	195
1938	5,266	2,870	54.5	(6)	(6)	68	358	194
1939	5,706	3,046	54.3	(6)	(6)	68	386	209
1940	4,692	3,314	59.3	(6)	(6)	68	419	224
1941	7,020	3,762	53.9	3,281	15.3	67	468	252
1942	8,320	4,625	55.6	(6)	(6)	61	510	281
1943	10,120	5,715	56.4	(6)	(6)	56	564	317
1944	11,591	6,648	57.4	5,253	24.2	52	605	360
1945	12,115	6,922	57.1	5,430	27.3	54	607	381
1946	11,420	6,381	55.8	5,142	24.1	67	826	461
1947	12,032	6,610	54.9	5,544	19.2	71	876	482
1948	12,703	7,039	55.4	5,489	18.5	72	945	523

[1] Income data presented here and elsewhere in the article for 1929, 1933, and 1935–37 are based on a survey conducted by the Department of Commerce in 1938. (See Herman Losken, *Economic Conditions in the Dental Profession, 1929–37*, U. S. Department of Commerce, September 1939.) Data for 1930–32 and 1934 are estimated from surveys conducted by the Department of Commerce in 1933 and 1935. Data for 1939 and 1941 are from a survey conducted in 1942 by the Department of Commerce and the American Dental Association. (See Edward F. Denison, Incomes in Selected Professions: Pt. 5, Dentistry, SURVEY OF CURRENT BUSINESS, April 1944, pp. 17–29.) Data for 1944–48 are from the present survey by the Department of Commerce.
Figures for 1938, 1940, and 1942–43 are estimated.
[2] Only the incomes of nonsalaried dentists are included in these 2 columns.
[3] Wherever used in this article, the term "gross income" always excludes salaries. The median gross incomes of nonsalaried dentists, available only for 1944–48, are as follows: 1944—$9,347; 1945—$9,042; 1946—$9,200; 1947—$10,028; 1948—$10,695.
[4] Medians for 1929, 1933, 1935, and 1936 are for all dentists rather than for nonsalaried dentists only. However, the differences are in all probability quite minor, being of the order of slightly less than 1 percent in 1937 and 1938.
[5] Data on the standard deviation, available only for 1944–48, are as follows: 1944—$5,113; 1945—$5,020; 1946—$5,246; 1947—$5,179; 1948—$5,250. The coefficient of variation (in percent) for the same years is: 76.9, 81.2, 81.2, 76.4, and 74.6, respectively. (See footnotes 2 and 3 in table 4 for explanations of these two measures.)
[6] Estimated number of dentists (in terms of the average number in a given year) whose major source of income from dental work was from independent practice.
[7] Total income of nonsalaried and part-salaried dentists from independent practice. These amounts include entrepreneurial income, but exclude salaries.
Data not available.

Source: U. S. Department of Commerce, Office of Business Economics.

Disposition of gross income

Table 3 presents a summary of the 1944–48 trend in average gross income, pay-roll expenses, other costs of practice, and net income. Between 1944 and 1948, pay-roll expenses and other costs of practice incurred by nonsalaried dentists tended on the whole to increase slightly, with a resultant mild decline in the net-to-gross income ratio from 57.4 to 55.4 percent. Pay-roll expenses were fairly constant at approximately one-tenth of gross income, while all other costs of practice totaled about one-third of gross.

Consumer expenditures for dental services

One of the questions included in the 1949 dental survey asked the respondent to estimate how much of his gross receipts were received from government or welfare agencies or from business organizations, as contrasted with his receipts from individuals. This information was requested in order to provide data for estimating consumer expenditures for dental services, one of the components of the gross national product.

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[1] In all tables based on the present survey, a dentist in active practice is treated as one person for a given year, regardless of the number of months he was in active practice during that year. Likewise, the dentist's income represents the actual amount he earned during the year, and not the amount he might have earned had he worked the full year. In 1946, with so many dentists working for only part of the year—after leaving the armed forces—the mean net income of dentists on a year-equivalent basis was appreciably larger than on the unadjusted basis given in the text. For other years, the differences were much smaller.
The comparative figures on mean and gross net income of nonsalaried dentists on the two bases are given below:

	1944	1945	1946	1947	1948
Net Income:					
Mean income per different dentist	$6,648	$6,922	$6,381	$6,610	$7,039
Mean income per year-equivalent dentist	6,600	7,058	6,848	6,757	7,281
Gross income:					
Mean income per different dentist	11,591	12,115	11,420	12,032	12,703
Mean income per year-equivalent dentist	11,562	12,353	12,283	12,300	13,139

[2] Bureau of the Census, *Comparative Occupation and Industry Statistics for the United States: 1940 and 1930*, Series P–44, No. 1, February 2, 1944, p. 49.
[3] According to estimates of the American Dental Association, there were approximately 87,000 active plus inactive dentists in the United States at the end of 1948. The ADA gives no separate estimate for the number of active dentists.
See footnote 2 of table 7 for an explanation of the method used in arriving at the tentative estimate of the number of dentists in active practice.

Prior to World War II, payments to independent dentists for dental services by other than consumers themselves were negligible. By 1948, however, about 5.3 percent of all gross income received by dentists from independent practice came from government agencies, business firms, and other organizations. The overwhelming proportion of these payments was made by the Veterans' Administration, which disbursed approximately $50 million to dentists in 1948.

Table 3.—Average Gross Income, Net Income, and Expenses of Dentists by Source of Dental Income, 1944–48

Item	1944	1945	1946	1947	1948
All dentists					
Mean amount:					
Gross income [1]	$11,440	$11,945	$11,298	$11,899	$12,407
Total net income	6,003	6,571	6,318	6,571	6,912
Median amount:					
Gross income [1]	9,259	9,464	9,162	9,854	10,451
Total net	5,331	5,455	6,121	5,547	5,848
Nonsalaried dentists					
Mean amount:					
Gross income	11,571	12,115	11,428	12,032	12,763
Payroll expenses	1,131	1,210	1,190	(²)	1,322
Other costs of practice	3,811	3,063	3,849	(²)	4,342
Net income	6,040	6,022	6,381	6,610	7,000
Median amount:					
Gross income	9,347	9,642	9,200	10,028	10,000
Net income	5,308	5,439	5,142	5,544	5,939
Percentage of gross income:					
Gross income [2]	100.0	100.0	100.0	100.0	100.0
Payroll expenses	9.8	10.0	10.5	(²)	10.4
Other costs of practice	32.0	32.9	31.7	(²)	34.2
Net income	57.4	57.1	55.8	54.0	55.4
Part-salaried dentists					
Mean amount:					
Gross income [1]	$7,908	$8,007	$8,258	$9,509	$8,734
Payroll expenses	535	530	747	(²)	836
Other costs of practice	2,530	2,739	2,932	(²)	3,182
Net income from independent practice	4,303	4,008	4,619	4,667	4,616
Salaried income	1,573	1,557	1,440	1,503	1,651
Total net income	6,376	6,255	6,060	6,170	6,267
Median amount:					
Gross income [1]	6,925	6,875	6,450	8,170	7,000
Net income	6,292	5,760	5,031	6,143	6,385
All-salaried dentists					
Mean net income	5,781	5,281	5,271	5,924	5,891
Median net income	5,104	5,600	4,750	5,700	5,496

[1] Whenever used in this article, the term "gross income" always excludes salary income.
[2] Detail will not necessarily add to total because of rounding.
[3] Data not available.

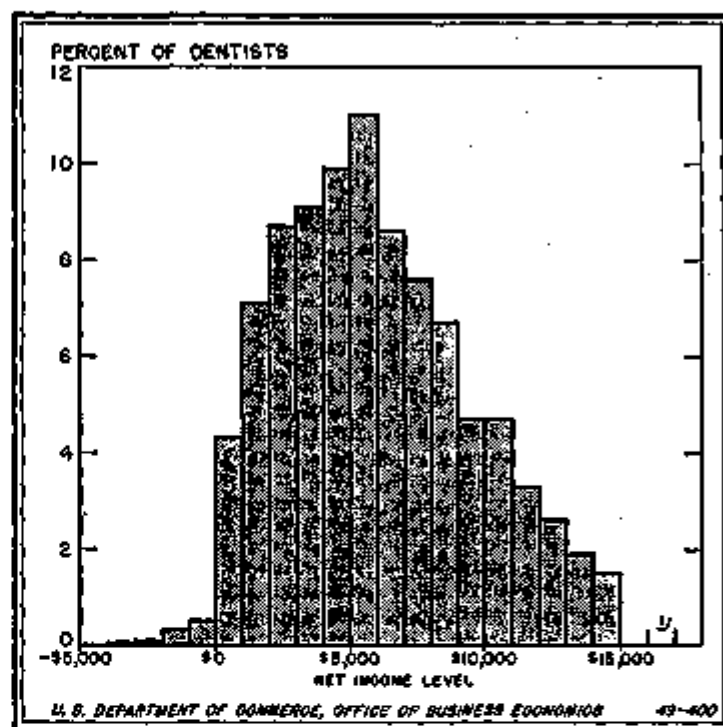Source: U. S. Department of Commerce, Office of Business Economics.

Variation in Income

In 1948, slightly more than 2 out of every 10 dentists reported net incomes of less than $3,000. A like number reported net incomes in excess of $10,000. The remainder, or nearly 6 out of 10, received between $3,000 and $10,000. (See chart 1 and table 4.) Seven years earlier (in 1941) more than 4 out of every 10 dentists reported net incomes of less than $3,000, and only 8.2 percent showed amounts above $10,000. During this period, of course, consumer prices had also risen sharply—by about 63 percent. The incomes of independent dentists showed a much greater variability, or dispersion, than those of salaried dentists.

Characteristically, the incomes of almost all occupational groups show great variability, that is, members of a given occupation have a wide range of incomes. In 1941, among the major professional groups, independent dentists showed the smallest relative variability, or inequality, of income—somewhat smaller than physicians, and considerably smaller than lawyers.[4]

The scanty data available on the inequality of dentists' incomes over time suggest that—except for the war years, when the income distribution was exceptionally unequal—

[4] See Edward F. Denison, Incomes in Selected Professions: Pt. 5, Comparison of Incomes in Nine Independent Professions, SURVEY OF CURRENT BUSINESS, May 1944, table 2, p. 15.

it has varied but little in the last twenty years. However, different measures of inequality give somewhat conflicting results, so that the conclusions cannot be considered as clearcut. (See table 2.)

Chart 1.—Percentage Distribution of All Civilian Dentists, by Net Income Levels for 1948

[1] Data are not plotted for the income levels above $15,000. These figures are as follows: $15,000–$19,999 (3.2 percent); $20,000–$24,999 (1.3 percent); $25,000 and over (0.8 percent).

Source of data: U. S. Department of Commerce, Office of Business Economics.

Factors Affecting Income

Many factors influence the amount of income received by dentists. Some of these—for example, sex, color, and education—could not be included within the scope of the present study. Other more or less "intangible" factors—such as skill, personality, ambition, health, business acumen, and family connections—may be just as significant, but are difficult to measure.

However, the present study is able to consider the relationship of dentists' incomes to such important factors as specialization, region and State, size of community, age, and number of employees, and this is done in the pages that follow. Earlier, the relationship between income and form of practice was discussed.

General practice versus specialization

Specialization of practice has always been rather uncommon among dentists. In 1948, the overwhelming proportion of dentists (88.5 percent) were engaged solely in general practice. About 5.9 percent indicated that they were partly specialized, and 5.6 percent designated themselves as wholly specialized. Interestingly enough, specialization was more prevalent among salaried than among independent dentists. (See table 5.)

There seems to have been no clear-cut trend during the past decade toward increased specialization among dentists. It is true that the proportion of wholly specialized dentists—always a very small figure—seems to have almost doubled from 1937 to 1948 (increasing from 3.1 to 5.6 percent).

However, the proportion of partly specialized dentists seems, if anything, to have decreased very slightly (from 6.2 to 5.9 percent) during the same period.[5]

Earnings of dental specialists are, on the average, substantially greater than those of general practitioners. Among independent practitioners in 1948 the mean net income of wholly specialized dentists was $11,784, or 75 percent larger than the mean of $6,735 reported by general practitioners. The mean income reported by partly specialized dentists ($7,906) was 17 percent larger than that of general practitioners.

Table 4.—Percentage Distribution of Dentists by Source of Dental Income and Net Income Level, 1948

Item	All dentists	Dentists with major source of dental income from—		Dentists with entire source of dental income from—		
		Independent practice	Salaried practice	Non-salaried practice	Partly salaried practice	All salaried practice
Number reporting	2,941	2,730	211	2,619	157	165
Percent in each group [1]	100.0	92.0	8.0	89.0	4.5	6.0
Mean net income	$6,912	$7,047	$5,358	$7,039	$6,267	$5,081
Median net income	$5,888	$5,944	$5,281	$5,939	$5,395	$5,480
Absolute dispersion of net income [2]	$5,112	$5,235	$2,952	$5,250	$4,690	$2,820
Relative dispersion of net income [3]	74.0	74.3	55.1	74.6	74.9	49.6
Net income level: [4]	*Percentage distribution by net income levels*					
Less $1–$3,999	1.0	1.1	0.3	1.1	0.4	
$0–$999	4.8	4.2	5.5	4.3	5.4	3.6
$1,000–$1,999	7.1	7.1	8.0	7.2	8.3	5.5
$2,000–$2,999	8.7	8.8	9.5	8.0	9.1	8.8
$3,000–$3,999	9.1	9.3	6.9	9.1	12.6	7.0
$4,000–$4,999	9.0	8.6	14.1	9.6	8.7	14.2
$5,000–$5,999	11.0	10.8	13.3	10.7	13.9	14.2
$6,000–$6,999	8.6	7.9	17.3	8.0	6.4	18.4
$7,000–$7,999	7.6	7.3	10.0	7.1	11.2	10.0
$8,000–$8,999	6.7	6.7	6.3	5.8	4.6	7.0
$9,000–$9,999	4.7	5.0	1.6	4.9	5.0	1.6
$10,000–$10,999	4.7	4.9	2.0	4.8	6.2	2.4
$11,000–$11,999	3.3	3.5	1.3	3.5	2.1	.6
$12,000–$12,999	2.6	2.6	2.5	2.6	2.1	2.7
$13,000–$13,999	1.9	2.0	1.3	1.9	2.1	1.6
$14,000–$14,999	1.5	1.6		1.6	.4	
$15,000–$19,999	6.2	5.0	.6	5.8	1.2	.6
$20,000–$24,999	1.5	1.4		1.4	1.7	
$25,000 and over	.8	.9		.9	.3	
Total [5]	100.0	100.0	100.0	100.0	100.0	100.0

[1] In this table, as in all others in this article, the percentage figures refer to the number of weighted returns, not to the actual number who reported.
[2] The measure of absolute dispersion used here is the standard deviation. This measure indicates the extent of absolute income dispersion, or spread, around the mean net income. If all incomes were the same, the dispersion would be zero.
[3] The measure of relative dispersion used here is the coefficient of variation, which is the standard deviation divided by the mean, and expressed as a percentage. This gives a standardized measure of the relative amount of income dispersion, permitting the direct comparison of relative income spread among various groups of dentists or for different years.
[4] The term "net income" as used in this article includes both net entrepreneurial income and salaries received from dental work, before payment of income taxes. It always excludes income received from nondental work.
[5] Detail will not necessarily add to total because of rounding.

Source: U. S. Department of Commerce, Office of Business Economics.

However, the gap between general practitioners' and specialists' earnings has narrowed appreciably during the past decade, since in 1937 complete specialists earned twice as much as general practitioners, as against only 75 percent more in 1948.

A partial explanation for the narrowing of the gap may be that specialists are now a younger group than general practitioners, whereas a decade ago they were a slightly older group. Since specialists are concentrated in the large cities, and

[5] It is probable that the number of dentists who designated themselves as specialists is somewhat larger than the number who would be so included under a rigorous definition such as that used by some States in licensing specialists. It should also be noted that the possibility of a change in the interpretation of the term "partly specialized"—at best an ill-defined designation—over the 11-year period in question suggests the need of caution in evaluating the trend for this group, especially since its 1941 percentage was 10.2.

(as will be shown later) dental incomes have risen least in large cities, it is also possible that the narrowing of the gap between earnings of specialists and general practitioners is interrelated with the shift in city-size earnings differentials.

Unlike independent complete specialists, salaried specialists (mean, $5,866) had only moderately higher average net incomes in 1948 than salaried general practitioners (mean, $5,007). This was also the case in 1937. Salaried general practitioners averaged 38 years of age in 1948, while salaried complete specialists averaged only 32.

Table 5.—Average Net Income and Age of Dentists by Degree of Specialization, 1948, 1941, and 1937

Degree of specialization	1948				1941	1937	Percent increase in mean net income, 1937 to 1948
	Percent of dentists	Mean net income	Median net income	Median age (years)	Mean net income	Mean net income	
All dentists:							
General practice	88.5	$6,010	$5,737	44	$3,600	$2,919	135
Partly specialized	5.9	7,891	6,942	40	4,321	3,665	115
Wholly specialized	5.6	10,606	8,591	39	6,044	5,413	96
Total	100.0	6,912	5,888	43	3,773	2,914	137
Major independent:							
General practice	89.5	6,735	5,796	44	(2)	[2] 2,700	141
Partly specialized	5.6	7,000	7,017	43	(2)	[2] 3,638	123
Wholly specialized	4.9	11,784	9,650	41	(2)	[2] 5,633	109
Total	100.0	7,047	5,914	44	[3] 3,783	[2] 2,883	144
Major salaried:							
General practice	76.9	5,007	5,002	38	(3)	[4] 3,220	55
Partly specialized	8.7	(3)	(3)	(3)	(3)	[4] 3,343	(3)
Wholly specialized	14.4	5,900	6,350	32	(3)	[4] 2,474	69
Total	100.0	5,358	5,285	37	[4] 3,493	[4] 3,178	61

[1] Data not available.
[2] These averages are for nonsalaried dentists. Comparable figures for major independent dentists are not available.
[3] Too few cases in sample to yield reliable results.
[4] These averages are for all-salaried dentists. Comparable figures for major salaried dentists are not available. The 1937 mean on the "Total" line is smaller than any constituent mean because it includes dentists who did not report on degree of specialization.

Source: U. S. Department of Commerce, Office of Business Economics.

Type of specialty

Because of the small proportion of dentists who are specialists, the survey sample is adequate to provide average net income figures for only a few of the specialties. In 1948, orthodontists were not only the most numerous group of complete specialists, but among independent practitioners they also seem to have had the highest average net income (mean, $13,353; median, $12,750), about double that of the average independent general practitioner. Oral surgeons (including exodontists and endodontists) had the second highest incomes (mean, $11,641; median, $9,750). (See table 6.)

Regional and State differentials

Not only do significant income differentials exist among dentists in the seven geographic regions of the country, but the relative positions held by some of the sections have changed markedly since 1941. Moreover, the regional ranking of average dental income is significantly different from that for the average income of the general population.

Dentists in the far West had a higher average net income in 1948 than those in any other section of the country; Southwest was second; Southeast and Northwest, third and fourth (the exact order depending on whether the mean or median is used); Central States, fifth; Middle East, sixth; and New England, seventh. (See table 7.) This is in sharp contrast to 1941, when the ranking was: far West, first; New England, second; Middle East, third; Southeast,

fourth; Southwest, fifth; Central States, sixth; and Northwest, seventh.

The range of regional variation in dentists' income was pronounced. In 1948, dentists in the far West had a mean net income ($9,751) 66 percent larger than that ($5,891) of New England dentists. Their median net income ($8,920) was even more in excess—82 percent—of the New England median ($4,898).

For the 23 larger States for which the sample was adequate to furnish data, dentists in the States of Washington, California, Oregon, and Texas reported substantially higher mean net incomes than any other State. Such large States as New York, Pennsylvania, and Illinois reported only moderate average incomes, considerably below those of the leading States.

Table 6.—Average Net Income of Partly and Wholly Specialized Dentists Whose Major Source of Dental Income Is From Independent Practice, by Field of Specialization, 1948

Field of specialization [1]	Wholly specialized			Partly specialized		
	Percent of dentists	Mean net income	Median net income	Percent of dentists	Mean net income	Median net income
Oral surgery and exodontics [2]	25.1	$12,641	$9,750	27.6	$9,409	$7,575
Orthodontics	52.4	13,353	12,750	18.9	8,535	7,280
Prosthodontics [3]	6.6	(4)	(4)	34.7	5,977	6,125
Periodontics	6.6	(4)	(4)	8.4	(4)	(4)
Pedodontics	7.2	(4)	(4)	8.6	(4)	(4)
Total [5]	100.6	11,784	9,559	100.9	7,909	7,617

[1] The named fields of specialization are those recognized by the American Dental Association in 1948.
[2] The field of endodontics is included here.
[3] Ocular prosthetics is included here as a partial specialty.
[4] Too few cases in sample to yield reliable results.
[5] Detail will not necessarily add to total because of rounding.

Source: U. S. Department of Commerce, Office of Business Economics.

The relative gains made by dentists since 1941 in the southern regions and the Northwest by comparison with those in the Middle East and New England are not surprising, since they are in line with the broad shifts which have taken place in the regional income structure of the general population. It is surprising, however, to find that the absolute level of average dental incomes is lower in the Middle East and New England than elsewhere, since the per capita income of the general population in 1948 was higher in both regions than that in the country as a whole. Such a finding demands explanation.

This is to be found in the data for the number of dentists per hundred thousand population shown in table 7, which indicate that the areas having the largest ratio of dentists to population also tend to have the lowest average net dental income, although this negative association is by no means perfect.

In 1948, New York State, with 9.75 percent of the civilian population, had 16.13 percent of the Nation's civilian dentists. With the highest per capita income, it nevertheless had lower mean and median dental incomes ($6,080 and $5,013, respectively) than the average for the Nation as a whole ($6,912 and $5,888, respectively).

It is also of considerable interest to note that the geographic regions having the largest supply of dentists per 100,000 population are, by and large, the regions with the highest per capita incomes for the general population. (The rank order correlation is +0.89, indicating a very close positive relationship.) When considered by States, the relationship of dental supply to per capita income is almost as striking. (The rank order correlation is +0.79; the correlation coefficient, +0.82.)

With the aid of the data in table 7, it was possible to develop crude estimates of the regional variation in consumer expend-

itures for dental services.[6] These estimates are compared with those for per capita income in the following table:

Region	Ratio of per capita consumer expenditures for dental services to the national average	Ratio of per capita income payments to the national average	Mean net income of independent dentists	Dentists per 100,000 population
New England	1.03	1.06	$4,100	65
Middle East	1.15	1.17	6,174	70
Southeast	.54	.68	7,348	28
Southwest	.77	.82	8,587	33
Central	1.05	1.09	6,703	59
Northwest	.98	1.00	8,702	53
Far West	1.54	1.12	10,250	60
United States	1.09	1.00	7,047	58

The above figures bring into focus the relationship between average dental income, the relative supply of dentists, and per capita income of the general population. They show the anticipated close relationship between per capita income and per capita dental expenditures for all regions except the far West. They also indicate that the low average income of dentists in New England and the Middle East is not due to low per capita expenditures for dental services—per capita expenditures for this purpose are 3 percent and 15 percent, respectively, above the national average—but to the greater supply of dentists in these areas relative to effective demand.

Per capita expenditures for dental services in the two southern regions fall below the national average by an even greater percentage than does per capita income, so that the high average earnings of dentists in these sections of the country is apparently due to a shortage of dentists rather than to an exceptional consumer expenditure pattern.

It seems a safe general conclusion from the data that the geographic distribution of dentists is over-concentrated with reference to the economic demand for dental services.

Size of community

The population size of the community in which dentists practice has an unmistakable influence on the amount of their earnings, although the pattern of variation over time has been a changing one, particularly for the cities of 500,000 or more inhabitants.

The smallest mean net income in 1948 ($5,010) was received by dentists in the smallest communities. (See table 8 and chart 2.) As size of place increased, average income also increased gradually (with but slight irregularity), until a peak of roughly $8,000 was reached in places having between 25,000 and 250,000 inhabitants. Then, as size of place increased further, average income declined (again with but minor fluctuation) until in cities of a million or more the mean net income for all dentists dropped to $5,980.

Only in places having fewer than 2,500 inhabitants did dentists have a lower mean net income than in cities above a million. In terms of the median (which minimizes the effect of the small number of unusually large incomes received in metropolitan centers), only dentists in places with fewer than 1,000 inhabitants had a lower net income ($4,450) than in cities of a million or more. However, the lower incomes in communities under 2,500 population may be attributable in part to the fact that the dentists in these areas are on the average about 5 years older than those in the largest cities.

Variation of average income by size of place in 1941 was similar to that for 1948, except that the decline in earnings in

[6] The calculation requires the assumption that the ratio of total net income of independent dentists (computed as the number of independent dentists times their average net income) in each region to total consumer expenditures for dental services in the region is the same for each region of the country. There is no apparent reason why this relationship should not hold rather well.

Table 7.—Number of Dentists and Their Average Net Income by Major Source of Dental Income and by Regions and States, 1948

Region and State	Average income of all dentists in civilian practice		Average income of dentists in civilian practice with major source of dental income from—				Per capita income of general population[1]	All dentists in civilian practice[2]	Civilian population[3]	Dentists per 100,000 civilian population	Percentage distribution of—				Rank[4]	
			Independent practice		Salaried practice						Civilian population	All dentists	Dentists with major source of dental income from—		Per capita income of general population	Dentists per 100,000 civilian population
	Mean net income	Median net income	Mean net income	Median net income	Mean net income	Median net income	Dollars	Number	Number (thousands)	Number			Independent practice	Salaried practice		
United States[4]	5,912	5,388	7,047	5,344	5,253	5,235	1,410	73,300	146,521	51	100.00	100.00	100.0	100.0		
New England	5,891	5,384	6,188	5,125	(5)	(5)	1,591	6,016	8,782	68	6.27	7.67	7.5	9.3	4	2
Connecticut	5,780	5,658	6,104	5,750	(5)	(5)	1,700	1,484	2,000	74	1.30	1.90	1.5	3.3	6	3
Maine	(5)	(5)	(5)	(5)	(5)	(5)	1,219	388	901	44	.04	.51	.5	1.0	38	20
Massachusetts	5,071	4,807	5,902	4,627	(5)	(5)	1,509	3,238	4,608	70	3.13	4.10	4.2	4.3	14	7
New Hampshire	(5)	(5)	(5)	(5)	(5)	(5)	1,201	241	530	50	.36	.34	.1	.0	20	21
Rhode Island	(5)	(5)	(5)	(5)	(5)	(5)	1,564	443	758	60	.50	.47	.6	.3	11	12
Vermont	(5)	(5)	(5)	(5)	(5)	(5)	1,229	162	305	40	.25	.31	.2	.6	32	27
Middle East	6,075	5,182	6,174	5,356	4,772	4,627	1,847	24,217	34,803	70	23.75	30.80	31.2	37.4	1	1
Delaware	(5)	(5)	(5)	(5)	(5)	(5)	1,741	132	305	43	.21	.17	.2	.0	4	31
District of Columbia	(5)	(5)	(5)	(5)	(5)	(5)	1,991	744	820	80	.57	.95	.7	3.6	6	1
Maryland	7,025	5,429	7,122	5,404	(5)	(5)	1,646	789	2,128	37	1.40	1.01	1.0	.3	13	35
New Jersey	6,033	5,150	6,063	5,205	(5)	(5)	1,805	3,219	4,771	67	3.20	4.10	4.4	4.3	9	9
New York	6,080	5,012	6,209	6,034	4,890	4,632	1,891	12,046	14,283	69	9.75	16.13	16.1	16.1	1	2
Pennsylvania	5,583	5,090	5,610	5,148	(5)	(5)	1,444	5,916	10,641	56	7.19	7.66	7.6	7.0	24	16
West Virginia	(5)	(5)	(5)	(5)	(5)	(5)	1,153	777	1,926	40	1.31	.99	1.1	.6	38	32
Southeast	7,117	6,172	7,348	6,321	(5)	(5)	957	8,375	25,341	25	20.43	10.69	14.4	11.3	7	7
Alabama	(5)	(5)	(5)	(5)	(5)	(5)	891	670	2,902	23	1.96	.87	.9	.3	46	46
Arkansas	(5)	(5)	(5)	(5)	(5)	(5)	863	380	1,945	20	1.23	.50	.6	.0	48	49
Florida	7,890	7,312	7,815	8,250	(5)	(5)	1,137	923	2,425	38	1.60	1.18	1.2	1.3	27	33
Georgia	(5)	(5)	(5)	(5)	(5)	(5)	971	842	3,148	27	2.15	1.07	.8	4.4	42	43
Kentucky	(5)	(5)	(5)	(5)	(5)	(5)	900	900	2,840	32	1.84	1.15	1.2	1.0	45	40
Louisiana	(5)	(5)	(5)	(5)	(5)	(5)	1,002	920	2,600	35	1.77	1.17	1.2	.5	41	36
Mississippi	(5)	(5)	(5)	(5)	(5)	(5)	766	463	2,112	21	1.44	.58	.6	.0	49	47
North Carolina	7,177	5,800	7,177	5,000	(5)	(5)	960	978	3,784	26	2.58	1.25	1.2	.0	44	44
South Carolina	(5)	(5)	(5)	(5)	(5)	(5)	866	395	1,005	20	1.34	.51	.5	2.3	47	48
Tennessee	(5)	(5)	(5)	(5)	(5)	(5)	935	698	3,164	20	2.18	1.90	1.2	.3	43	41
Virginia	(5)	(5)	(5)	(5)	(5)	(5)	1,150	987	3,010	32	2.06	1.22	1.5	.9	30	39
Southwest	8,439	7,396	8,587	8,063	(5)	(5)	1,163	3,585	10,823	33	7.45	4.57	4.7	3.3	6	5
Arizona	(5)	(5)	(5)	(5)	(5)	(5)	1,188	300	715	28	.49	.30	.3	.0	35	42
New Mexico	(5)	(5)	(5)	(5)	(5)	(5)	1,125	134	560	24	.38	.17	.2	.0	39	45
Oklahoma	(5)	(5)	(5)	(5)	(5)	(5)	1,039	867	2,280	35	1.56	1.03	1.1	.6	40	37
Texas	8,560	6,539	8,704	7,417	(5)	(5)	1,192	2,412	7,393	33	5.02	3.12	3.1	3.3	34	38
Central	6,673	5,926	6,743	5,558	5,464	5,442	1,534	23,277	39,347	59	21.81	29.70	30.0	25.6	3	4
Illinois	6,057	5,221	6,102	5,310	(5)	(5)	1,817	6,167	8,351	74	4.70	7.87	8.3	9.3	2	4
Indiana	7,381	6,400	7,401	6,500	(5)	(5)	1,403	1,607	3,053	48	2.70	2.42	2.5	1.5	24	28
Iowa	5,533	4,667	5,572	4,750	(5)	(5)	1,400	1,532	2,027	68	1.70	1.95	2.1	.8	18	13
Michigan	7,846	6,909	7,908	7,214	(5)	(5)	1,464	3,108	6,277	49	4.28	3.07	3.3	6.0	17	23
Minnesota	7,522	7,000	7,915	6,948	(5)	(5)	1,363	2,168	3,055	71	2.02	2.68	2.5	4.3	26	5
Missouri	6,071	5,691	6,146	5,398	(5)	(5)	1,360	2,191	3,942	56	2.67	1.80	2.7	3.3	25	17
Ohio	7,021	6,023	7,100	6,167	(5)	(5)	1,648	3,090	7,900	50	5.40	5.01	5.0	4.6	12	22
Wisconsin	6,190	6,296	6,198	6,306	(5)	(5)	1,442	2,335	3,320	70	2.27	2.96	3.1	1.5	22	6
Northwest	6,854	6,254	6,792	6,091	(5)	(5)	1,412	4,672	7,640	53	5.22	5.29	5.3	4.0	5	6
Colorado	6,016	6,000	(5)	(5)	(5)	(5)	1,529	724	1,102	61	.81	.92	.9	1.5	23	11
Idaho	(5)	(5)	(5)	(5)	(5)	(5)	1,262	219	589	37	.40	.29	.3	.5	30	34
Kansas	6,780	5,333	6,742	6,306	(5)	(5)	1,281	930	1,901	49	1.30	1.10	1.3	.3	28	24
Montana	(5)	(5)	(5)	(5)	(5)	(5)	1,791	285	613	46	.33	.36	.4	.0	3	18
Nebraska	7,314	7,000	(5)	(5)	(5)	(5)	1,473	896	1,281	68	.87	1.11	1.0	1.6	18.5	8
North Dakota	(5)	(5)	(5)	(5)	(5)	(5)	1,473	209	604	45	.41	.34	.4	.0	18.5	29
South Dakota	(5)	(5)	(5)	(5)	(5)	(5)	1,577	297	622	47	.43	.38	.4	.8	10	20
Utah	(5)	(5)	(5)	(5)	(5)	(5)	1,331	348	674	51	.46	.44	.5	.0	31	20
Wyoming	(5)	(5)	(5)	(5)	(5)	(5)	1,494	128	279	46	.19	.10	.2	.0	15	28
Far West	9,751	8,520	10,216	9,137	6,667	6,150	1,579	8,838	14,706	60	10.04	11.29	10.7	18.3	2	3
California	9,840	8,781	10,425	9,117	6,094	6,125	1,651	8,374	10,374	61	7.08	8.13	7.5	16.5	8	10
Nevada	(5)	(5)	(5)	(5)	(5)	(5)	1,679	87	166	52	.11	.11	.1	.0	7	19
Oregon	9,186	9,000	9,384	9,000	(5)	(5)	1,203	908	1,686	57	1.15	1.24	1.2	1.6	27	14
Washington	10,003	9,375	10,324	9,500	(5)	(5)	1,453	1,409	2,478	57	1.69	1.80	1.9	1.0	20	15

[1] The per capita figures are from Charles F. Schwartz and Robert E. Graham, Jr., State Income Payments in 1948, SURVEY OF CURRENT BUSINESS, August 1949, table 2, p. 15.

[2] Estimated number of independent and salaried dentists in active civilian practice as of Dec. 31, 1948. (Excludes dentists in the armed forces, who numbered approximately 1,054 at the end of 1948.) The estimates were made by taking as a starting point the number of dentists in each State included in the complete roster of dentists of the commercial mailing list firm which provided the addresses used in the present study. The proportion of retired, deceased, and military dentists in each State, as indicated by the returns, was converted into absolute numbers and subtracted from the basic count to determine the number of active civilian dentists by States. It may be that, because of possible under-reporting by retired dentists, the estimate overstates the number of dentists in active practice, but there is no way of determining this point at the present time.

[3] Estimated civilian population as of Dec. 31, 1948. Calculated from Census Bureau estimates for July 1, 1948, and July 1, 1949, by straight-line interpolation. See Census releases P-25, Nos. 20 and 32.

[4] The regions are ranked separately from the States.

[5] Detail will not necessarily add to total because of rounding.

[6] Too few cases in sample to yield reliable results.

Source: U. S. Department of Commerce, Office of Business Economics.

the largest cities was less pronounced in 1941. (See chart 2.) In the depression year of 1937, however, the pattern was the same for all places up to 500,000 population; beyond that point—instead of declining—average income remained virtually unchanged. Although dentists' incomes doubled or more than doubled in the 1937–48 period for all community sizes, they increased most in the middle-size communities (25,000—99,999) and least in the cities of a million or more.

In 1948, age was apparently not a significant factor making for community-size income differentials, except perhaps in places under 2,500 population, where the average age (48 years) was appreciably above that for the Nation as a whole (43 years). In all other community-size groups (but for an unexplained vagary in the 2,500–4,999 group), the median age of dentists is remarkably consistent for all city sizes, not varying by more than 1 or 2 years from the national average.

The pattern of income variation by size of community poses an interesting question as to causality. It will be noted in table 8 that the number of dentists per 100,000 population[7] increases steadily as size of community increases, reaching a peak in cities of a million or more. Likewise,

[7] In the absence of more recent data, figures for 1940 were used.

data for the entire civilian population indicate that income per family increases steadily as size of community increases, also reaching a peak in cities of a million or more. On the other hand, the average income of dentists, it will be recalled, increased only up to cities of 100,000 (or 250,000) population, and then declined.

Table 8.—Average Net Income and Age of Dentists by Size of Community and for Selected Large Cities, 1948

Size of community and specific cities [1]	All dentists				Percent increase in mean net income, 1937 to 1948	Major independent [2]		Dentists per 100,000 population, 1949 [3]	Median family income, 1947 [4]
	Percent of dentists	Mean net income	Median net income	Median age (years)		Mean net income	Median net income		
Size of community:									
Under 1,000	3.6	$5,040	$4,450	49	151	$5,087	$4,560	24	$3,222
1,000–2,400	0.9	5,040	5,068	47	137	5,694	5,138	24	
2,500–4,900	6.3	6,870	5,927	39	150	6,985	6,013	31	
5,000–9,900	7.8	6,485	5,761	41	138	6,530	5,795	37	2,771
10,000–24,900	11.7	7,190	6,078	43	136	7,256	6,156	45	
25,000–49,900	9.0	7,003	7,046	42	100	8,145	7,240	54	
50,000–99,900	7.2	8,125	6,866	44	100	8,483	7,375	57	2,907
100,000–249,900	6.3	8,105	6,938	43	144	8,379	7,004	63	
250,000–499,900	9.2	7,254	6,488	43	144	7,378	6,588	78	
500,000–999,900	8.8	7,352	6,182	45	146	7,603	6,357	86	3,017
1,000,000 or more	26.0	5,980	4,962	43	99	6,004	4,980		2,347
United States [5]	100.0	6,912	5,296	43	107	7,047	5,944	54	2,685
City:									
San Francisco	1.0	9,577	8,750	43	(6)	9,483	8,417	(6)	(6)
Los Angeles	2.5	8,562	7,750	43	152	9,021	8,125	(6)	(6)
Cleveland	1.3	7,341	5,375	43	(6)	7,368	5,800	(6)	(6)
Detroit	1.7	6,010	5,068	44	117	6,674	5,680	(6)	(6)
New York City	10.8	5,600	4,388	42	79	5,769	4,417	(6)	(6)
Chicago	2.6	6,204	5,346	46	107	6,323	4,833	(6)	(6)
Philadelphia	2.6	5,240	4,725	41	103	6,309	4,734	(6)	(6)

[1] For 1948 data, size of community is expressed in terms of 1940 population because no official figures of more recent date are available. For 1937 all dentists in Los Angeles had a mean net income of $4,403; Detroit, $3,103; New York City, $3,134; Chicago, $2,555; and Philadelphia, $2,500.

[2] There are too few salaried dentists in the sample to yield reliable figures on average income except for the following community sizes: 100,000–249,999 population (mean net income, $5,033; median, $5,000) and 1,000,000 or more population (mean, $3,008; median, $4,813).

[3] Calculated from table 9, p. 19, Joseph F. Baglanza, Economic Considerations in Reestablishing a Dental Practice, Journal of the American Dental Association, Jan. 1, 1949. The figure for the United States (54) was independently calculated on the basis of 1940 census figures.

[4] Bureau of the Census, Incomes of Families and Persons in the United States: 1947, Series P-60, No. 5, Feb. 7, 1949, table 1, p. 15. Data for places under 2,500 population are unpublished figures supplied by the Bureau of the Census.

[5] Detail will not necessarily add to total because of rounding.

[6] Data not available.

Source: U. S. Department of Commerce, Office of Business Economics.

It seems plausible, therefore, to advance the hypothesis that in 1948 the supply of dentists was smallest relative to effective dental demand—which is not necessarily the same as the *need* for dental services—in cities having between 100,000 and 250,000 inhabitants. In smaller places, effective demand declined more sharply than the number of dentists per capita, while in larger places the effective demand for dentists' services increased less rapidly than the number of dentists per capita. Much light could be thrown on the subject if estimates of per capita income and per capita consumer expenditures for dental services were available by size of community (such as those presented earlier by region).

The size-of-community income pattern for 1929 was in general quite similar to (although perhaps not so pronounced as) that prevailing some 20 years later, except that in cities of a million or more (taken as a group) incomes were relatively higher in 1929.

For 1929, dentists in New York City (with 9.4 percent of the Nation's dentists) reported the largest mean net income ($5,477) for any population group or any city of a million or more, whereas in 1948 (with 10.8 percent of the country's dentists) they had one of the smallest averages ($5,609), even falling substantially below the national average. In 1929, the relatively high dental incomes in New York City and Los Angeles gave the cities of a million or more (taken

as a group) a higher average income than that of any other population-size group, a situation in sharp contrast to that prevailing in 1948. Even in 1929, however, Chicago and Philadelphia dentists had lower incomes than the national average, and in 1948 Philadelphia, Chicago, and New York City were all below the national level. Table 8 gives additional data for seven of the largest cities.

Age

Of all the factors associated with income, age seems to show the most consistent behavior, generally unmarred by unexplained fluctuations often encountered in size-of-community, regional, and other comparisons.

As may be clearly seen from chart 3, the mean net income of all dentists in 1948 rose sharply and steadily from its lowest value of $2,823 for dentists under 25 years of age to a peak of $9,117 for dentists 40–44 years of age, then declined somewhat less sharply, but no less steadily, with increasing age to a value of $3,227 for dentists 65 years of age and over. (Also see table 9.)

Chart 2.—Mean Net Income of All Civilian Dentists, by Size of Community
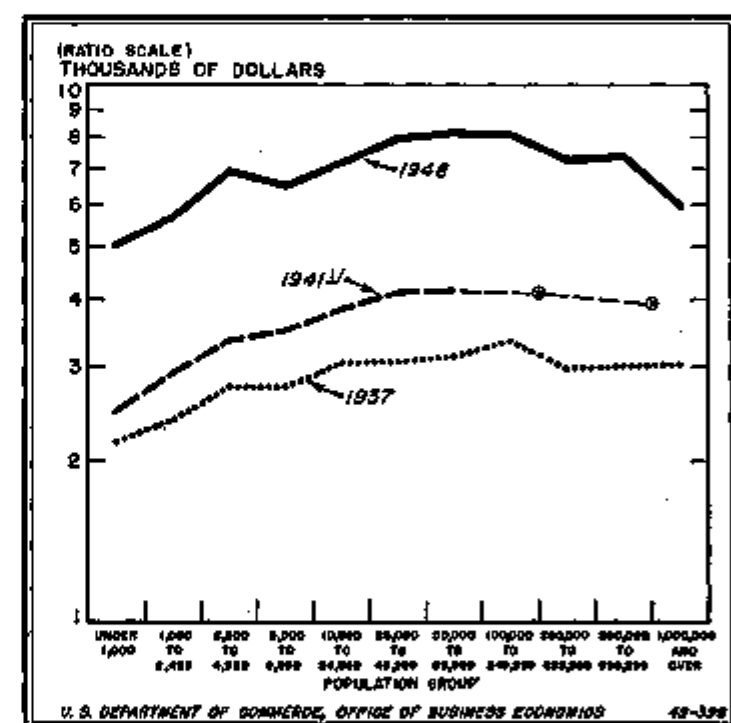
[1] Data for 1941 above the 50,000–99,999 population group are available only for places of 100,000–499,999 and 500,000 and over.
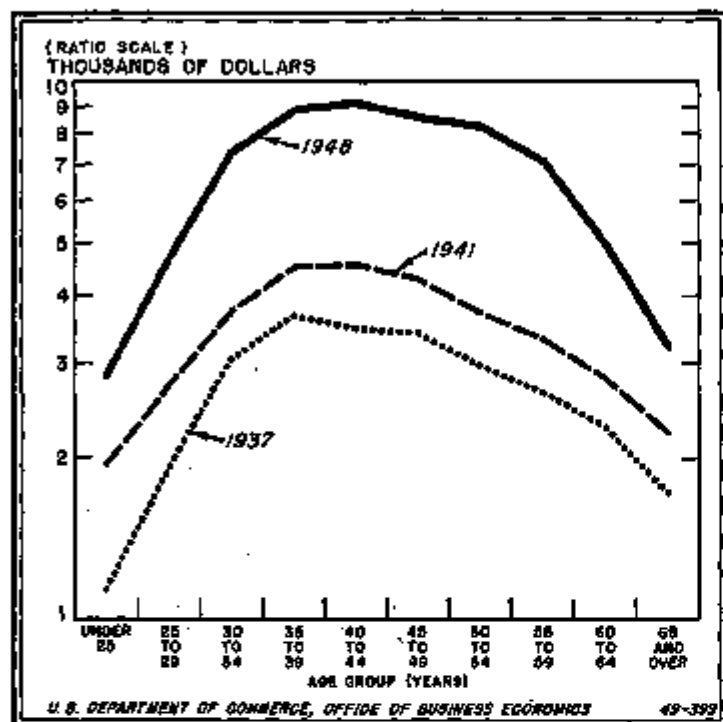
Source of data: U. S. Department of Commerce, Office of Business Economics.

During the past decade, the age of peak earnings among dentists has increased. In 1937 the peak period was clearly 35–39 years; in 1941 there was little difference between the 35–39 and 40–44 age brackets; in 1948 the peak was clearly in the 40–44 year bracket. Despite the striking rise in dental incomes between 1937 and 1948, the increase in mean net income for all age levels—except for dentists over 60 years of age—was very similar. The income of older dentists rose least, perhaps because in 1948 this group included many who in prewar years would not have continued in practice.

Since 1937 the proportion of older practicing dentists has increased, particularly that of dentists over 65. Proportionately, this latter group has doubled in the past decade (from 5.2 percent in 1937 to 10.7 percent in 1948).

Table 10, which presents a cross-classification of the percentage of dentists by net income level and age group, is a good example of what a simpler summary table showing only average income by age groups, or only average age by income levels, must leave untold.[3] Clearly, dentists of all ages are found at practically every income level. However,

Chart 3.—Mean Net Income of All Civilian Dentists, by Age Group

Source of data: U. S. Department of Commerce, Office of Business Economics.

levels having identical or very similar average ages show quite different concentrations of dentists by age groups, and a low average age alone may fail to reveal a secondary concentration at a much higher age group.

Table 9.—Average Net Income of Dentists by Age Group, 1948

Age group (years)[1]	All dentists				Major Independent			Major salaried[2]
	Percent of dentists	Mean net income	Median net income	Percent increase in mean net income, 1937 to 1948	Percent of dentists	Mean net income	Median net income	Percent of dentists
Under 25	1.3	$2,823	$2,944	146	1.1	$3,038	$3,300	9.3
25–29	14.3	4,707	4,396	144	13.4	4,803	4,515	24.7
30–34	18.0	7,347	6,503	142	18.0	7,468	6,600	9.8
35–39	12.7	8,756	7,566	140	12.7	8,693	7,804	13.1
40–44	11.2	9,117	8,128	162	11.1	9,308	8,390	11.9
45–49	10.8	8,664	7,808	143	10.6	8,833	7,464	9.1
50–54	10.7	8,226	7,098	177	11.1	8,307	7,077	6.3
55–59	9.1	7,100	6,110	109	9.1	7,144	6,065	9.6
60–64	5.5	5,033	4,003	122	5.0	5,058	4,088	4.0
65 and over	10.7	3,297	2,440	88	11.5	3,206	2,412	2.0
All dentists[3]	100.0	6,913	5,838	187	100.0	7,047	5,944	100.0

[1] Approximately 1.1 percent of the dentists failed to report on "age." These cases were excluded from the percentage base. For "all dentists" the mean net income for these cases was $7,016; the median net income $4,625.
[2] There are too few cases in the sample of yield reliable figures on average income except for the following age groups: 25–29 years (mean net income, $5,709; median, $3,721); 30–39 years (mean, $6,087; median, $5,290).
[3] Detail will not necessarily add to total because of rounding.

Source: U. S. Department of Commerce, Office of Business Economics.

[3] Similarly, a table showing average net income in each community size by age groups would be very informative, but demands a large number of sample cases. See Edward F. Denison, Incomes in Selected Professions: Pt. 6, Dentistry, SURVEY OF CURRENT BUSINESS, April 1944, table 3, p. 19.

Dentists who sustained losses in 1948 averaged 32 years of age, the youngest group at any income level. However, although two-thirds of the dentists who suffered losses were under 35 (no dentist in the sample between the ages of 35 and 50 reported a loss), about one-quarter of the dentists who lost money were over 60. Thus, dentists who lost money tended to be primarily the very young, but also included a substantial proportion of the very old.

Similarly, although the median age of dentists who made $0–$2,000 was 59 (the oldest group at any income level), more than one-fourth of the dentists at this level were under 30. Thus, the very low income recipients were primarily the very old, but also included many of the very young. As income increases, fewer and fewer of either the very young or the very old are found at each income level.

Table 10.—Percentage Distribution of Dentists with Major Source of Dental Income from Independent Practice by Age and Net Income Level, 1948

Net income level	Median age[1]	Age group (years)				
		By age group: Percentage of dentists at each income level				
		All dentists[2]	Under 30	30–39	40–49	50–59	60 and over
Loss: $1–$2,000	32	1.1	2.9	1.2		0.3	1.7
$0–$1,990	59	11.0	29.0	4.0	2.2	5.3	31.5
$2,000–$3,999	50	17.9	21.2	12.2	12.2	18.2	31.0
$4,000–$5,999	43	20.5	25.8	20.8	18.6	22.0	17.3
$6,000–$7,999	43	15.3	12.4	19.4	17.6	10.3	8.2
$8,000–$9,999	42	11.8	10.2	13.0	14.1	14.1	5.2
$10,000–$11,999	41	8.5	3.3	12.4	13.2	7.5	1.8
$12,000–$14,999	42	6.1	3.0	7.9	9.3	5.0	2.2
$15,000–$19,999	42	5.0	.0	8.3	9.0	0.0	1.0
$20,000 and over	47	2.2	.2	1.7	3.7	4.4	.1
All dentists[3]	44	100.0	100.0	100.0	100.0	100.0	100.0
		By income level: percentage of dentists in each age group				
Loss: $1–$2,000	32	100.0	38.3	28.6		6.1	26.5
$0–$1,990	59	100.0	27.6	9.8	4.4	9.8	45.6
$2,000–$3,999	50	100.0	17.2	13.2	14.7	20.5	29.4
$4,000–$5,999	43	100.0	17.6	21.4	19.6	21.7	14.1
$6,000–$7,999	43	100.0	11.8	22.1	23.9	21.0	9.2
$8,000–$9,999	42	100.0	12.4	30.4	25.8	23.9	7.4
$10,000–$11,999	41	100.0	5.7	39.0	33.8	17.9	3.6
$12,000–$14,999	42	100.0	7.2	34.2	33.1	19.4	6.1
$15,000–$19,999	42	100.0	1.6	39.1	34.8	21.6	3.1
$20,000 and over	47	100.0	1.0	21.2	30.4	40.4	1.0
All dentists	44	100.0	14.5	25.6	21.7	20.2	17.6

[1] Dentists with net incomes of $2,000–$3,000 had a median age of 57; $3,000–$3,000, 48 years; $5,000–$6,000, 43 years; $6,000–$9,999, 40 years; $10,000–$10,999, 40 years; $11,000–$11,999, 43 years.
[2] Detail will not necessarily add to total because of rounding.

Source: U. S. Department of Commerce, Office of Business Economics.

Number and earnings of employees

Almost two-thirds (63 percent) of the nonsalaried dentists had employees of some kind in 1948. About 4 out of 10 dentists had only 1 employee, slightly more than 1 out of 10 had 2 employees, and fewer than 1 out of 10 had 3 or more employees. (See table 11.)

The correlation between dentists' net incomes and the number of employees they have is quite striking. In 1948 dentists who had no employees had the lowest average net income (mean, $3,819; median, $3,239), markedly below the average for all dentists. Dentists with one employee had more than twice as large an average net income (mean, $8,134; median, $7,321) as those with no employees. As the number of employees per dentist increased, the dentist's average net income increased, until for dentists with five or more employees the mean net income reached $18,955, or five times as great as for dentists with no employees.

Of course, some dentists with no employees had high incomes, and some with several employees had low incomes, but in both cases the percentages were quite low (table 12). In 1948 only 3 percent of the no-employee dentists had incomes above $10,000, whereas half of the dentists with two or more employees had such incomes. On the other hand, at the lower income levels (below $4,000), we find more than half (60.4 percent) of the dentists with no employees and only 7.5 percent of those with two or more employees.

Table 11.—Average Net Income of Nonsalaried Dentists by Average Number of Employees, 1948

Number of employees [1]	Percent of dentists having specified number of employees	Average net income of dentists having specified number of employees	
		Mean	Median
None	37.0	$3,519	$3,229
Under 0.50	2.9	4,370	4,068
1	41.7	6,134	7,321
2	12.0	9,630	8,941
3	4.0	12,548	11,154
4	1.2	15,732	13,902
5 or more [2]	1.1	18,356	17,480
Total [3]	100.0	7,080	5,930

[1] Dentists were asked to report on the count of their employees as follows: "A person who worked 12 months during a year, either full time or part time, is counted as 1 employee. A person who worked 6 months is counted as ½. A person who worked 3 months is counted as ¼. Thus, this table includes both full- and part-time employees on a monthly-average basis. The category "under 0.5" includes dentists who had one or more employees in the calendar year 1948 who totaled less than a half man-year of employment. The category 1 includes 0.50-1.49 man-years, 2 includes 1.50-2.49 man-years, etc.

[2] About 0.5 percent of the dentists reported having 5 employees; 0.5 percent, 6; and 0.1 percent, 7 or more.

[3] Detail will not necessarily add to total because of rounding.

Source: U. S. Department of Commerce, Office of Business Economics.

Table 12 also indicates that the number of employees per dentist (including dentists with no employees) rose steadily, with but few aberrations, from 0.1 at the $0–$999 net income level to 3.2 for dentists making more than $25,000.

Table 12.—Average Number of Employees and Pay Rolls of Nonsalaried Dentists, 1948

Net income level	Percent of dentists at a given income level having specified number of employees			Percent of dentists with specified number of employees distributed by income levels			Mean		
	None	1 [1]	2 or more	None	1 [1]	2 or more	Number of employees per dentist	Pay roll per dentist	Salary per employee
Less $1–$999	75.5	24.6		2.3	0.0		0.21	$250	$1,243
$0–$999	80.5	8.9	1.6	10.4	.3	0.4	.11	87	706
$1,000–$1,999	82.8	15.7	1.0	10.1	2.5	.9	.17	138	816
$2,000–$2,999	73.4	18.8	7.8	17.2	8.0	3.7	.32	200	835
$3,000–$3,999	58.5	35.8	5.7	14.4	7.3	2.8	.41	271	915
$4,000–$4,999	40.8	49.9	9.4	10.8	10.8	4.9	.62	562	882
$5,000–$5,999	35.0	54.0	11.0	9.9	13.2	6.4	.72	740	1,018
$6,000–$6,999	26.2	60.3	13.5	5.7	10.3	5.9	.87	935	1,072
$7,000–$7,999	22.5	53.0	25.5	1.5	8.5	9.1	1.04	1,208	1,319
$8,000–$8,999	21.5	58.5	21.0	1.0	8.0	8.1	1.03	1,531	1,420
$9,000–$9,999	15.4	60.8	23.8	2.3	6.6	6.4	1.14	1,000	1,450
$10,000–$10,999	8.1	63.4	30.0	1.0	7.0	6.9	1.39	2,720	1,099
$11,000–$11,999	8.3	64.3	27.4	.6	5.1	6.3	1.28	1,831	1,128
$12,000–$12,999	5.3	50.0	44.7	.4	3.9	6.3	1.52	2,238	1,466
$13,000–$13,999	3.5	67.1	29.4	.2	3.9	3.1	1.41	2,853	1,616
$14,000–$14,999	1.4	53.4	45.2	.1	3.0	4.1	1.62	2,710	1,676
$15,000–$19,999	3.1	40.9	56.0	.5	8.3	17.7	2.09	4,459	2,132
$20,000–$24,999		31.7	68.3		1.0	5.0	2.52	6,841	2,429
$25,000 and over		28.2	71.8		.6	3.4	3.22	6,832	2,115
Total [2]	37.0	44.6	18.4	100.0	100.0	100.0	.89	1,322	1,490

[1] Includes dentists who had employees totaling less than 0.5 man-years of work. See footnote 1 of table 11 for further explanations.

[2] Detail will not necessarily add to total because of rounding.

Source: U. S. Department of Commerce, Office of Business Economics.

Since the number of employees per dentist increases as net income increases, it is no surprise to find that dentists' pay rolls rise as net income rises. In 1948, dentists who earned up to $1,000 net income had an average pay roll of but $87; dentists who netted $20,000–$24,999 had an average pay roll of $6,841. The mean salaries and wages received by all dental employees, professional as well as nonprofessional, varied from $796 per employee for dentists who netted $0–$999 to $2,429 for dentists in the $20,000–$24,999 income bracket. (See table 12.)

It can be seen from table 13 that the mean earnings of all dentists' employees increased from 1944 to 1948 by about 31.7 percent, rising from $1,135 to $1,484 in the 5-year period.

Table 13.—Mean Earnings of Dentists' Employees, Selected Years, 1944–48

Item	1944	1945	1946	1948
All employees	$1,135	$1,362	$1,398	$1,484

Source: U. S. Department of Commerce, Office of Business Economics.

TECHNICAL NOTES

From time to time the National Income Division of the Office of Business Economics has made various mail surveys in diverse fields of economic activity in order to provide otherwise unobtainable information needed for compiling its official estimates of national income. One of the better known series of surveys has been that pertaining primarily to independent professional practitioners. In the past these questionnaire studies have covered such varied groups as certified public accountants, chiropodists, chiropractors, dentists, lawyers, nurses, osteopathic physicians, physicians and surgeons, and veterinarians.

These surveys generally provide valuable byproduct data which furnish an informative description of the trends in the economic conditions in the various professions. Since such data have not usually been available from other sources, there has always been a steady interest in and demand for their publication, especially among the members of the professions themselves. In addition, past articles have evoked a wide interest among economists, sociologists, statisticians, educators, vocational counselors, and students.

Because of limited funds, questionnaires in these surveys have generally, but not always, been addressed only to a sample of the profession. The proportion of usable questionnaires returned has varied from 10 to 38 percent of the entire mailing. Naturally, this has always raised a question concerning the extent to which the returns received represented the entire group sampled.

In the present survey, as in many of the past ones, the characteristics of the persons supplying usable information were compared with those for the entire professional group, insofar as data were available to do so, and when the results for the returns differed materially from the control figures, the sample data were adjusted or weighted to make them conform with expectation. Because of the general paucity of relevant control data, however, such weighting may not be adequate. Nevertheless, it is felt that it generally improves the unweighted results.

The list of dentists from which the 1949 sample was drawn was that maintained by a commercial mailing list firm. Such lists are sometimes biased in various ways due to the peculiar, restricted demands of the clientele of the mailing firm. The list in question, however, was not deficient in any observable number, and seemed to be kept scrupulously up to date. Only in that it contained a small percentage of dentists who had retired did the list appear to depart from the claim made for it as including all dentists in active practice. For the purposes of the survey, however, this was no real drawback. Indeed, except from the point of view of economy, it would even be preferable if all so-called "retired" dentists were included in the basic universe, since their replies can be weeded out quite easily if they had no income for any of the years in question.

The complete list of active dentists comprised of 83,412 names arranged alphabetically within communities, these in turn being arranged alphabetically within States. A sample of 27,804 names was selected by drawing every third name on the list. Questionnaires were mailed to the sample group on April 7, 1949, and all usable responses received before October 1 were included in the final tabulations. The questionnaires were completely anonymous, and response was on a voluntary basis.

Dentists were asked to give certain basic data such as type of practice, degree and field of specialization, location of practice, age, etc., as of 1948. In addition, for the period 1944–48, inclusive, they were asked to give their gross income, costs of practice, net income from independent practice, salary income, number of employees and pay roll, and a few other miscellaneous items.

A total of 3,941 usable returns were received, representing 11.3 percent of the replies that would have been received if all active dentists in the sample had supplied information. These returns represent about 3.8 percent of all active civilian dentists.

Comparative data against which the sample results could be checked were limited to but three characteristics: (1) Distribution of dentists by size of community; (2) distribution of American Dental Association members by States; and (3) distribution of all dentists by States. It was found that the sample returns agreed quite closely with the size-of-community distribution of the complete mailing firm list, and consequently no adjustments were judged necessary on this score.

The proportion of returns from ADA members (92.8 percent), however, was considerably in excess of the proportion estimated from ADA sources (61.4 percent). (Similar appreciable overresponse from ADA members was found in the 1938 survey, but not in the 1942 survey.) Since it was known that the average income of ADA members was approximately double that of nonmembers, it was decided to adjust the proportion of returns by membership status. Although data were available on membership by States, the actual weighting was carried out by regions because of the complete lack of non-ADA returns for a number of the smaller States.

In 1948 the mean net income of all dentists who were ADA members was $7,503; of nonmembers, $4,183. The median net income of ADA members was $6,421; of nonmembers, $3,182. For independent dentists alone (i. e., excluding major salaried dentists), the differences were even larger: ADA mean, $7,067; non-ADA mean, $3,067; ADA median, $6,619; non-ADA median, $2,964.

Although the sample distribution of the proportion of dentists by States did not differ markedly from that for all dentists (as provided by the complete mailing list), there seemed to be enough disparity to justify weighting the returns on this score as well, and this was done after the ADA weighting. By and large, the Western and Central States tended toward over-response, whereas the Southeast and New England tended toward under-response.

The over-all net effect of the above adjustments, due chiefly to weighting for ADA membership, was to reduce the unweighted averages. For all dentists the mean net income after weighting ($6,912) was 5 percent less than before weighting ($7,274). The median net income after weighting ($6,888) was 6 percent less than before weighting ($6,268).